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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,387	08/09/2000	Naoki Aihara	FUJH 17.615	5173

7590 07/13/2004

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EXAMINER	
SEFCHECK, GREGORY B	

ART UNIT	PAPER NUMBER
2662	8

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/634,387	AIHARA ET AL.	
	Examiner	Art Unit	
	Gregory B Sefcheck	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-11 and 15-17* is/are rejected.

7)☒ Claim(s) *12-14 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 4/21/2004 is acknowledged.
- Claims 1-8 are cancelled.
- Newly added claims 9-18 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Regarding claims 10,

  On lines 3-4 and 10 of the claim, it is not clear what is meant by "an output line to be used for a protection channel and a channel in the output line." Is the "output line to be used for a protection channel" and "a channel in the output line" two separate things?

- Claim 16 is rejected because it depends from claim 10

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 9 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US006353593B1), hereafter Chen.

- In regards to Claim 9,

Chen discloses a system for switching ATM traffic over working and protection channels (Fig. 1-2; Col. 3-4, lines 38-8; claim 9 – switch system at each node in ATM network switches over a working and protection channel).

Referring to Figs. 2 and 3, Chen shows an add/drop multiplexer node of the ATM network, having an ATM switch fabric and management complex (claim 9 – ATM switch circuit and controller).

Chen discloses that data input at the tributary cards (Fig. 2, 62) are multiplexed into virtual parth connections, processed through the ATM switch fabric and transmitted from the line cards (Fig. 2, 64; claim 9 – external line interface portions each inserting cells; claim 9 – internal line interface portions each extracting cells; claim 9–multiplexing cells from the internal line interface portions, interfacing with ATM switch circuit).

Chen discloses that the line cards are bi-directional, meaning data received at the line cards 64 is demultiplexed, processed through the switch fabric and delivered to the appropriate tributary card 62 (Col. 5, lines 18-25; claim 9 – demultiplexer interfacing ATM switch circuit and demultiplexing ATM cells).

Referring now to Figs. 1 and 4, Chen shows that the multiplexed ATM cells are monitored for the APS virtual path connections and then received at the destination node on both the working and protection links (Col. 6, lines 52-63; claim 9 – demux at starting point of protection domain identifies a connection for APS processing and duplicates cells on a working channel to a protection channel; claim 9 – multiplexer allows only ATM cells identified as the connection for APS processing to be transmitted).

The destination node than determines whether an AIS has been received due to an upstream failure detection on the working link (Col. 6, lines 63-67; claim 9 – switch system detecting a failure on the working channel transmits AIS downstream toward terminal point of protection domain).

If AIS is detected at the destination node, traffic is selected from the protection link. If no AIS is detected, traffic is selected from the working link. In both cases, all VPCs and VCCs are automatically selected from the appropriately selected link (Col. 7, lines 1-15; claim 9 – switch system at terminal point of protection domain detects AIS and transfer it to controller; claim 9 – controller orders switch over from internal line interface portion of working channel to internal line interface portion of protection channel).

- In regards to Claim 11,

Chen discloses a system for switching ATM traffic over working and protection channels that covers all limitations of the parent claim.

Chen discloses receiving ATM cells having path and channel identifiers and performing address translation for switching labels and modifying the information carried in the cells allowing the cells to be grouped into virtual channels, paths, and/or groups (Col. 3-4, lines 39-7; claim 11 – internal line interface includes VPI/VCI converting table, a header modification portion; claim 11 – refers to VPI/VCI table using internal and channel identifiers to obtain an external channel to be output in the external line interface portions and a virtual channel indentifier; claim 11 – setting the obtained virtual channel identifier in the ATM cell at the header modification portion).

Chen also discloses nodes inserting an AIS alarm when a failure is detected upstream in the protection domain (Col. 4-5, lines 22-3; claim 11 – internal line interface includes an alarm cell insertion circuit; claim 11 – when failure is detected between starting point and a downstream node, inserting an alarm cell at the alarm insertion circuit according to a control command).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 10 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Ahmad et al. (US006359857B1), hereafter Ahmad.

- In regards to Claims 10 and 15-17,

Chen discloses a system for switching ATM traffic over working and protection channels that covers all limitations of the parent claim.

Chen does not explicitly show storing output line information used for the protection channel at the demux starting point of the protection domain. Chen does not disclose using an identifier in the header of the cell to determine APS processing, using the stored output line information for obtaining the protection channel output line and duplicating the input cell onto the protection channel output line.

Ahmad discloses protection switching trigger generation at nodes in an ATM network (Title; Abstract). Referring to Fig. 6, Ahmad shows detecting an identifier in the input cell indicating APS processing, using a database of stored information to copy the cell and transmit the data on a designated bypass path. (Col. 3-4; Col. 8, lines 10-52; claim 10 – demux at starting point of protection domain includes a cell copy table storing

information of an output line to be used for a protection channel; claim 10 – identifies an identifier in a header of an input cell indicating whether or not the input cell is of a connection for APS processing; claim 10 – when the identifier indicates APS, using the cell copy table to obtain information on an output line to be used for a protection channel; claim 10 – duplicates the input cell into the output line to be used for a protection channel).

Ahmad further shows that within the protection domain, when an AIS is detected, only cells where the protection channel is enabled are passed (Fig. 5; Col. 8, lines 1-7; claims 15/16/17 – only cells to which the ACT bit is on in the protection channel are transmitted).

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the system of Chen by utilizing an identifier in the header of the input cell to determine protection switching processing and then using a table of stored information to obtain a protection channel to duplicate and transmit the data, as shown by Ahmad. This would enable protection domains to be defined between any two nodes in the network and nested protection domains while minimizing the need for protection switching processing to only traffic that passes through those designated protection domains.

Allowable Subject Matter

7. Claims 12-14 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- In regards to Claim 12,

The prior art of record does not show an ATM switch system that converts an obtained internal channel identifier and virtual channel identifier to a condensed internal channel and virtual channel identifier, modifies the header of the ATM cell with the condensed internal channel and virtual channel identifier, and then refers to an APS bit set table and ACT bit set table using the condensed internal channel and virtual channel identifer as a reference key to determine APS processing and transmission access to a user.

- Claims 13, 14, and 18 would also be allowable because they depend from claim 12.

Response to Arguments

8. Applicant's arguments filed 4/21/2004 with respect to claims 9-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- De Boer et al. (US006658013B1) discloses a method and apparatus for ensuring survivability of inter-ring traffic
- Chaudhuri (US006600719B1) discloses a method and apparatus for restoring a network
- Faye et al. (US006542461B1) discloses a method of protecting ATM connections in a telecommunications network
- Kondo (US006442131B1) discloses a selective VP protection method in ATM network
- Naohiro (US006317414B1) discloses a signal switching method
- Anderson et al. (US006049523A) discloses a system and method for achieving efficient coordination of protection switching
- Shinbashi (US005805568A) discloses an add/drop multiplexer for supporting fixed length cell

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B Sefcheck whose telephone number is 703-305-0633. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GBS
6-30-2004

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